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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Erwin Rinaldo Meinders

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS

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EXAMINER

PHAM, HAI CHI

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/599,994	Applicant(s) MEINDERS ET AL.	
	Examiner Hai C. Pham	Art Unit 2861	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-11 and 13-15 is/are rejected.
- 7) ☒ Claim(s) 4 and 12 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 October 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>03/20/08</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Objections

2. Claim 3 is objected to because of the following informalities:
 - Claim 3 should claim dependency from claim 2 instead of claim 1 since the recited limitation "the grooves" is only found in claim 2.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 13 and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 13 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting all essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. It is totally unclear how the method of recording an

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image on the record carrier would be carried out since none of the method steps are being claimed.

Claim 14 also lacks the method steps for carrying out the recording of image on the record carrier.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nomura (JP 2001-35012) in view of Anderson et al. (US 6,778,205).

With regard to claim 1: Nomura discloses a record carrier having a plurality of stacked layers (Figs. 1 & 2), the record carrier comprising at least one recording layer 14 and at least one mask layer 12 on top of at least a region of the recording layer 22 (see Abstract), the optical transparency of a region of the mask layer 12 changing by applying heat by a laser beam to the region of the mask layer (the mask layer 12 becomes transparent at the irradiation position of a laser beam) [0004], characterized in that at least one thermal barrier layer (dielectric layer 13) is provided between the recording layer 14 and the mask layer 12 (Figs. 1 & 2).

Nomura teaches using a phase transition type recording layer 14 and fails to teach the colored pixel pattern layer as the recording layer.

However, it is well known in the art that the recording material of the optical disc can have different types of material as evidenced by Anderson et al., which discloses an optical recording medium 112 having a plurality of stacked layers 202, 304, 306, 204, the optical medium comprising a writable label layer 304, which can be made of a phase changing material (col. 3, lines 34-37) or of a material that includes different color regions (col. 4, line 64 to col. 5, line 28), and on top of which is disposed the thermally sensitive layer 306 (Figs. 3A-3C).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide the optical medium of Nomura with a recording layer having colored pixel patterns as taught by Anderson et al. since Anderson et al. teaches this to be well known in the art that one can select a desired material for the recording layer suitable to one's application.

Nomura further teaches:

- (claim 6) the sequence of layers is (a) substrate 11, (b) mask layer 12, (c) thermal barrier layer 13, and (d) recording layer 14 (Fig. 1).
- (claim 7) the thermal barrier layer 13 comprises a material from the group of ZnS-SiO₂, SiC, Si₃N₄, Al₂O₃ [0011].
- (claim 8) the mask layer 12 comprises a thermo-chromic material [0011].

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7. Claims 1-3, 5, 6, 8, 9, 13, 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kikukawa et al. (US 6,329,036) in view of Anderson et al.

With regard to claim 1: Kikukawa et al. discloses a record carrier having a plurality of stacked layers, the record carrier comprising at least one recording layer 42 and at least one mask layer 41 on top of at least a region of the phase change recording layer 42 (Fig. 2), the optical transparency of a region of the mask layer 41 changing by applying heat by a laser beam to the region of the mask layer (the mask layer 41 allows for an optical aperture to form by the irradiation of a laser beam, which thermally changes the transparency/transmittance characteristic of the material forming the mask layer) (col. 8, lines 20-54), characterized in that at least one thermal barrier layer (dielectric layer 32) is provided between the recording layer 42 and the mask layer 41 (col. 8, lines 55-67).

Kikukawa et al. teaches using a phase change recording layer 42 and fails to teach the colored pixel pattern layer as the recording layer.

However, it is well known in the art that the recording material of the optical disc can have different types of material as evidenced by Anderson et al., which discloses an optical recording medium 112 having a plurality of stacked layers 202, 304, 306, 204, the optical medium comprising a writable label layer 304, which can be made of a phase changing material (col. 3, lines 34-37) or of a material that includes different color regions (col. 4, line 64 to col. 5, line 28), and on top of which is disposed the thermally sensitive layer 306 (Figs. 3A-3C).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide the optical medium of Kikukawa et al. with a recording layer having colored pixel patterns as taught by Anderson et al. since Anderson et al. teaches this to be well known in the art that one can select a desired material for the recording layer suitable to one's application.

Kikukawa et al. further teaches:

- (claim 2) the plurality of stacked layers comprises a substrate 2 on top of which the phase change recording layer 42, the thermal barrier layer 32 and the mask layer 41 are arranged, and wherein the substrate 2 comprises grooves for tracking purposes (col. 6, lines 22-35).
- (claim 5) the sequence of layers is (a) substrate 2, (b) recording layer 42, (c) thermal barrier layer 32, and (d) mask layer 41 (Fig. 2).
- (claim 6) the sequence of layers is (a) substrate 2, (b) mask layer 41, (c) thermal barrier layer 32, and (d) recording layer 42 (Fig. 1).
- (claim 8) the mask layer 41 comprises a thermo-chromic material (the mask layer changes its optical characteristics such as the transmittance and reflectance under the influence of temperature) (col. 8, lines 21-32).
- (claim 9) the mask layer 41 comprises a material from the group of AgO and poly(3,4-ethylenedioxythiophene) (the mask layer 41 contains metal or alloys including Ag) (col. 8, lines 40-44).

With regard to claim 3, Kikukawa et al. discloses the substrate 2 comprising grooves along which the recording marks are formed, but fails to teach the colored pixels being aligned with the grooves.

Anderson et al. teaches the recording layer comprising a plurality of color regions, which are formed in concentric rings 320 providing pixel-like capabilities for writing images on the recording layer (Fig. 3C) (col. 5, lines 13-28).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide the recording layer of Kikukawa et al. with the colored patterns in concentric rings to allow forming image pixels aligned with the grooves as taught by Anderson et al. for the benefit of obtaining a high resolution image.

With regard to claim 13, Kikukawa et al. in view of Anderson et al. teaches a method for recording using the optical medium disclosed above with regard to claim 1.

With regard to claim 15, Kikukawa et al. in view of Anderson et al. teaches an optical recorder for recording an image using the optical medium disclosed above with regard to claim 1.

8. Claims 10, 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kikukawa et al. in view of Anderson et al. as applied to claim 1 above, and further in view of Takamori et al. (US 7,397,755).

Kikukawa et al. in view of Anderson et al. discloses all the basic limitations of the claimed invention except for the mask layer comprising organic dyes, or a material that undergoes a phase transition upon heating.

Takamori et al. discloses an optical recording medium comprising a plurality of layers including a substrate 12, a mask layer 13, a recording layer 16, the mask layer 13 being a temperature-sensitive layer containing a material whose transmittance is changed according to a change in temperature (col. 4, lines 42-51) (col. 5, lines 45-60), the mask layer being made of a thermo-chromic material or a phase change material or dye such that the mask layer optically changes upon the irradiation of a light beam (col. 1, lines 38-55).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide the device of Kikukawa et al. with a mask layer comprising a phase change material or organic dyes as taught by Takamori et al. since Takamori et al. teaches this to be well known in the art to use a variety of materials for the mask layer whose properties are to optically change in accordance with a change in temperature.

9. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kikukawa et al. in view of Anderson et al. ('205) as applied to claim 13 above, and further in view of Anderson et al. (US 2005/0068412).

Kikukawa et al. in view of Anderson et al. ('205) discloses all the basic limitations of the claimed invention except for using a defocused laser beam for recording.

Anderson et al. ('412) teaches creating a defocused laser beam spot to form a mark within a track on the recording medium for the purpose of enhancing the optical density of the image [0010] [0017].

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the device of Kikukawa et al. by incorporating the teachings of Anderson et al. ('412) in producing a defocused laser beam spot to form a mark within a track on the recording medium for the purpose of enhancing the optical density of the image.

Allowable Subject Matter

10. Claims 4 and 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. The following is a statement of reasons for the indication of allowable subject matter: the primary reason for the indication of the allowability of claim 4 is the inclusion of the limitation "calibration apertures are provided in 51), the mask layer", which is not found taught by the prior art of record considered alone or in combination.

The primary reason for the indication of the allowability of claim 12 is the inclusion of the limitation "the mask layer comprises a dual layer system that mixes upon heating, thereby changing the transparency", which is not found taught by the prior art of record considered alone or in combination.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai C. Pham whose telephone number is (571) 272-2260. The examiner can normally be reached on M-F 8:30AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Luu can be reached on (571) 272-7663. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Hai C Pham/
Primary Examiner, Art Unit 2861
August 29, 2009